Erigeron acer L. (Blue Fleabane) and Rabbits in Central Glasgow

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The botanical interest of areas of rubbly waste ground in Glasgow has been discussed by Dickson (1992). Such habitats can quickly accumulate rich floras with high proportions of alien species (Crawley, 1987; Gilbert, 1989). Some of these aliens can be little known or even unknown in the region in question. Such a species is Blue Fleabane, found in Glasgow in early July 1993.

The locality is in the heart of the built up city between Renfield, West Nile and Renfrew Streets and Renfrew Lane (NGR NS 589 658). The habitat is the debris- and rubbish- strewn basement of the former Apollo building demolished in 1988 and left undeveloped. The approximately 0.24ha have been colonised by about 50 species of vascular plants as well as rabbits, the presence of the latter made obvious by droppings and nibbled plants. The 50 species include many of the commonest plants of the Glasgow area and for the most part are familiar as colonists of waste ground.

There was only one small plant of Blue Fleablane; the top part of the inflorescence had been removed probably by a rabbit. A 2x2m quadrat placed over the plant had Domin cover-abundance values as follows.

Bare ground	6
Chamerion angustifolium (L.) Holub	6
Cerastium fontanum Baumg.	4
Ceratodon purpureus (Hedw.) Brid.	4
Epilobium ciliatum Raf.	4
Hypochaeris radicata L.	4
Sagina procumbens L.	4
Agrostis capillaris L.	3
Holcus lanatus L.	3
Taraxacum sect. *Ruderalia*	3
Rabbit droppings	2
Erigeron acer	1
Poa annua L.	1
Senecio squalidus L.	1
Sonchus asper (L.) Hill	1
Tussilago farfara L.	1

There are few records of Blue Fleabane now and have been few in the past in Scotland. Last seen in Angus last century, it is considered extinct there by Ingram and Noltie (1981). At the well-botanised Yellowcraig, East Lothian, it was first recorded in 1960 (Silverside and Jackson, 1988) and in 1991 was still present and "plentiful on dune banks" (Silverside, pers.comm.). At New Stevenson, Lanarkshire it grows with other calcicoles on alkaline (sodium silicate) waste from an iron foundry (Macpherson, 1994).

In Britain Blue Fleabane is a southern calcicole considered native in England where it is commonest in the southeast but only casual in Scotland (Stace 1991) where it may be alien; casual is hardly a description that fits the Yellowcraig plants persistent for more than 30 years.

In those areas where it is native its growth in waste places and railways is often mentioned in local Floras such as those by Kent (1975), Philp (1982), Crackles (1990), Wynne (1993) and Swan (1993). In urban Sheffield (Clarkson and Garland, 1988), it was recorded with 50% frequency on industrial tips with strongly alkaline, freely draining substrata. In central Stockholm it is strongly connected with railways (Lindberg, 1983) and in Berlin it has a variety of habitats including those strongly influenced by man (Bocker *et al.*, 1991).

For the Glasgow rectangle (Dickson *et al.*, forthcoming) there have been almost no records of the genus *Erigeron* and the closely related *Conyza*, both very familiar in more southerly parts of Britain. This is the first record of *E. acer* in the Glasgow rectangle.

Designating Blue Fleabane as "An effective colonist" that is "narrowly restricted to dry, unproductive, usually calcareous habitats", Grime *et al.* (1988 p.262) discuss the highly mobile fruits and cite individual plants 15km from the nearest known populations. The Glasgow plant is some 20km northeast of New Stevenson. The very scattered Scottish localities are or were separated from each other by many tens of km or more and separated by even greater distances from the nearest more or less continuous occupancy of 10km squares in north-eastern England (Perring and Walters, 1990, Swan, 1993).

Grime *et al.* (1988) also mention susceptibility to grazing. Though the species can be polycarpic, the Glasgow individual is unlikely to have acted as a source of spread within the city; on my second visit it could not be seen, perhaps having been totally destroyed by the resi-

dent rabbits and thus having had no chance to shed ripe achenes, which can be produced by the thousand, even as many as 5,000 or more in the case of a large plant (Grime *et al.*, 1988); Salisbury (1942) gave about 2,000 as an average.

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